

August 11, 2004

**Feasibility Study
West Lake Landfill Site
Operable Unit 1
Revised June 8, 2004**

40332197



Superfund

General Comments:

1. As with the previous draft, the revised FS overstates or mis-represents the case on a number of levels and on a variety of issues. In EPA's comment letter of August 6, 2003, we provided numerous comments designed to call attention to the areas that need revision. Many of the problems identified on the previous version of the FS, continue to be a problem with the current version. With this comment letter we have attempted to provide more specific instruction regarding the changes that need to be made before EPA will be in a position to approve the document. While we tried to identify the specific sections that need revision, we did not identify each and every instance within the document that needs similar revision and these comments should be interpreted to apply everywhere within the document that similar issues are covered.
2. The revised FS still contains numerous statements and conclusions to the effect that the BRA shows that all risks are within the acceptable risk range and that the status quo is protective. As commented on the prior draft, EPA strongly disagrees with this characterization. Firstly, the BRA clearly identifies future hypothetical scenarios with calculated risks exceeding the acceptable risk range. Secondly, the BRA does not evaluate all reasonable exposure scenarios nor does it establish reasonable maximum exposure. As written, the FS tends to overlook this limitation. EPA accepted the BRA with the understanding that it provides sufficient risk basis to undertake response action in accordance with the presumptive approach to municipal landfill sites. As written, the FS generally fails to capture this understanding. The FS should be revised to make these points clear, as well as making it clear that alternatives relying on institutional controls only are not protective.
3. Some of the FS analysis dealing with ARAR determinations applies an interpretation to the institutional control only alternatives that, since there is no active engineering measures, no action-specific ARARs apply, i.e., landfill closure requirements need not be considered. As commented on the last draft, EPA disagrees with this interpretation. Under the presumptive approach to landfill sites, once it is determined that there is a sufficient basis for taking response action, **containment** is identified as the presumptive remedy. Therefore, the institutional control only alternatives for the disposal areas do not meet ARARs and the FS should be modified accordingly.

4. Each of the remedial alternatives discussed in the revised FS relies on the use of institutional controls (ICs) as part of the remedy. We have several issues related to both existing and proposed additional ICs as follows:
 - The discussion of alternatives for the Buffer Zone/Crossroad property includes placement of deed restrictions on this property. The discussion recognizes that the cooperation of the landowner is necessary for the implementation of the proposed deed restrictions. However, there is no indication that the landowner is willing to impose these recommended deed restrictions. Please include a discussion of the willingness (or not) of the landowner to impose these restriction.
 - Each discussion of the ICs as part of the remedy somewhat overstates the effectiveness of these proprietary controls indicating that they are “permanent” or “preclude use.” Proprietary controls are effective as informational devices and can create an enforceable legal property interest, but these controls alone do not provide a high degree of assurance that the remedy will remain effective and protective of human health and the environment. The FS must indicate this limitation.
 - The existing deed restrictions need to be upgraded to correspond with the Cleanup Levels for Missouri, Appendix E Attachment E1-Model Restrictive Covenant and Grant of Easement. Any additional deed restrictions that will become part of a selected remedy will need to be consistent with the Missouri CALM as well. This restrictive covenant and easement names the state of Missouri as grantee with the authority to enforce the restrictive covenant. The EPA is named as a third-party beneficiary so that EPA will also have the authority to enforce the terms of the restrictive covenant and easement. In addition, the model is designed to protect the engineering controls that may be installed as part of the remedy. That model also requires that the easement provision is effective in perpetuity.
 - In EPA’s comment letter of August 6, 2003, page 3, number 8, we suggested that the FS should examine other institutional control options that might be used to provide redundancy or enhance long term effectiveness. Such analysis does not appear in the revised FS. Please discuss the opportunities for other ICs that may be useful to achieve the goals discussed, such as preventing use of groundwater, etc. EPA is concerned that neither access restrictions nor deed restrictions could foreclose such incidents as that described in the FS at the BufferZone/Crossroads Property whereby Triple A Trailer apparently scraped radiologically contaminated soil in 1999 and then removed that soil sometime in 2002-03. This event apparently went unnoticed by anyone at the Landfill and was not reported to EPA.
4. EPA accepted the Remedial Investigation Report (RI) based in part on the decision to proceed

with the presumptive remedy for landfill sites, which provides that containment is the presumed remedy and the process may be devoted to identifying the appropriate landfill closure requirements. However, the FS attempts to use the results of the RI to make the case that many of the pathways normally associated with municipal landfill sites are not an issue for this site, e.g., leaching to groundwater is not a concern. EPA does not agree that the RI provides a sufficient technical basis to support these determinations. These arguments will need to be revised or omitted according to the specific comments below.

5. The FS is not consistent on the matter of methane gas generation and whether or not it is an issue for the remedy. The preliminary information forming the basis for the Remedial Action Objectives (RAOs) contains statements that methane gas generation is not an issue without citing any supporting information. These statements should be supported or revised to be consistent with the detailed description of the capping alternatives which include gas monitoring and collection as a component.
6. The “hot spot” excavation alternative (H2) is not a stand alone option, i.e., hot spots would only be excavated in conjunction with a capping alternative. However, much of evaluation on H2 is devoted to explaining how it is not effective by itself. The evaluation should be revised to illustrate the trade-offs between capping and capping with hot spot excavation.
7. The evaluation of the Ford Property should be rethought. The evaluation begins with the assumption that conditions are like they were after the initial regrading activities in 1999. Then most of the subsequent analysis begins with the argument that there is probably no contamination left after the most recent regrading. The discussion then goes on to evaluate alternatives for a condition that has been presupposed not to exist. This makes for an awkward and confusing analysis. The discussion should be revised to presume the presence of contamination above levels allowing for unrestricted use pending the results of systematic sampling to be performed in support of remedial design.
8. The comparative analysis is largely devoted to explaining how there is no unacceptable risk and reiterating information already presented in the detailed analysis. As written, the analysis does not do a good job of illustrating the primary distinctions among the alternatives and should be rewritten to focus on this objective. Also, with the exception of the No Action Alternative, those alternatives not meeting the threshold criteria do not need to be and generally should not be carried forward for evaluation against the primary balancing criteria.

Specific Comments:

1. 2.3 Potential Migration Pathways, pg. 14 – The reference to Section 4.4.4.2, where potential additional deed restrictions are discussed, is probably intended to be Section 4.4.4.1.2. The meaning and the purpose of the last paragraph in this section is not clear. However, the

suggestion that land use restrictions alone are sufficient to maintain the physical integrity of the site should be removed. The suggestion should be the reverse, i.e., the following analysis of potential migration pathways reflect current conditions, however there are currently no provisions to stabilize or maintain the physical integrity of Areas 1 and 2 and conditions could deteriorate over time if appropriate measures are not taken.

2. 2.3.1 Airborne Transport, pg. 14 – The FS should discuss methane gas generation and/or lateral gas migration from adjacent landfill areas. As written, sufficient information is not provided to eliminate methane generation as an issue for this operable unit. Add to the discussion of fugitive dust the qualification that this is not considered a significant pathway for radionuclide migration under current conditions, primarily because the surfaces are vegetated preventing the release of significant amounts fugitive dust. Explain that this pathway could become a concern in the future if the site conditions are not monitored and maintained.
3. 2.3.2 Rainwater Runoff Transport, pg. 15 – This discussion should be revised. Since the Ford property was contaminated through the erosional transport of contaminated soil, it is not reasonable to concluded that sediment transport in rainwater runoff is not a significant pathway for offsite migration of radionuclides. Following an argument that the contamination is in the sediment fraction and not in the rainwater, the lack of radionuclides above MCLs in nearby surface water bodies is inappropriately cited as a basis for concluding that sediment transport in rainwater is not a potential pathway. Is it correct to say that “total uranium in the filtered fraction was twice the MCL,” given that MCL refers to a water measure? What does it mean to conclude that the pathway is a potential pathway for radionuclide migration but is not a significant pathway for offsite migration of radionuclides? Based on the available information, a more accurate and balanced conclusion regarding rainwater runoff transport is that offsite migration of contaminated soils through rainwater runoff transport does not appear to be significant mechanism under average rain events as long as vegetation is maintained and erosional events do not occur. As long as contaminated soil remains at or near the surface, there is ongoing potential for these materials to be transported through rainwater runoff in the event of an erosional storm event or in the event rainwater contacts areas with disturbed vegetation.
4. 2.3.3 Soil Erosion and Sediment Transport, pg. 15 – This section seems to cover the same subject matter as the previous section (2.3.2), and yet appears to reach the opposite conclusion. Either the distinction should be made clear or these sections should be combined.
5. 2.3.4 Leaching to Groundwater and Groundwater Transport, pg. 16 – EPA does not agree that it has been demonstrated that leaching of radionuclides to groundwater is not a pathway of concern. We agree that groundwater monitoring to date has shown limited impact. We agree that partitioning calculations based on published distribution coefficients indicate that impacts to groundwater over time may be low. However, the RI was not designed with sufficient technical

rigor to support definitive conclusions about the potential for contaminants to leach to groundwater over time or demonstrate that variance is justified. Actual leach testing of the waste materials has not been performed. A rigorous look at the landfill chemistry, redox sensitivity, leaching mechanisms or radionuclide speciation has not been done. The potential for cycling of elements between solution and solid phase and the effect on leach potential with time has not been studied. The nature of any microbial activity and its influence on mobility has not been examined. Examination and application of the optimal predictive tools or modeling approaches has not been done. The potential effects of excavation or physical disruption of the waste material has not been examined. It is largely because of the limitations, complexities, and uncertainties associated with trying to provide a true quantitative assessment of contaminant mobility in landfills, that the general approach to landfills is to presume that potential leaching to groundwater is a pathway which needs to be addressed. If the respondents were interested in making the case that the groundwater pathway does not need to be addressed, we would need to revisit the adequacy of the characterization phase.

6. 2.4.1 Human Health Risk Assessment, pgs. 18 -20 – The conclusions presented here understate the potential risks, overstate the effectiveness of use restrictions, and do not sufficiently describe the significance of the limitations placed on the range of alternatives that were evaluated in the BRA. EPA agreed to the adequacy of the BRA based on its use as a threshold assessment, i.e., it provides a sufficient risk basis to undertake response action in accordance with the presumptive approach to municipal landfill sites, but is not intended to evaluate all reasonable hypothetical pathways and does not establish a reasonable maximum exposure. The discussion needs to do a better job of making this point clear and do a better job of establishing the basis for response action. For example:

The BRA provides an assessment of site risks based on the evaluation of a range of hypothetical exposures, including an onsite groundskeeper and workers associated with commercial or industrial use of areas in proximity to the site. The range of exposure scenarios evaluated was limited based on the assumption that existing land use restrictions remain in effect and that they are effective at limiting use over the long-term. Hypothetical scenarios involving uses inconsistent with these restrictions, e.g., residential, onsite commercial, utility or construction work, were not evaluated. The evaluation also assumes that the disposal areas remain in stable condition over time or are maintained in a condition consistent with their current state. Consistent with EPA's approach to CERCLA municipal landfill sites, the scope of the BRA may be reasonably limited to the task of identifying a pathway that presents an unacceptable risk to human health and the environment, and a quantitative assessment of all reasonable or potential exposure pathways is not necessary to initiate remedial action.

The evaluation of current hypothetical exposure, as represented by the nearby groundskeeper working on areas adjacent to Areas 1 and 2, indicates that current risks are within the acceptable risk range. The evaluation of future hypothetical exposures, as represented by the

onsite groundskeeper scenario and the worker who uses Areas 1 and 2 for outdoor storage, indicates risks at the upper end or slightly exceeding the acceptable risk range. Other hypothetical uses that result in greater exposure duration or frequency, e.g., residential, would lead to greater calculated risks. Also, scenarios involving greater contact with the contaminated material, e.g., construction worker, could result in greater calculated risks.

7. 3.1.1.1 Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings, pg. 23 – By definition, determinations as to whether requirements are relevant and appropriate are made on a requirement specific basis. Therefore, conclusions to the effect that regulations in whole are not relevant and appropriate, such as that provided in the second paragraph and elsewhere, do not seem meaningful and should be removed.
8. 3.1.3.1 Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings, pg. 32 – The determination that the 1000/200 year standard is generally not relevant and appropriate is not consistent with the discussion that follows. No reason is provided for the conclusion that long-term hazards relating to disruption of the disposal site is not a concern at this site. Much of the supporting discussion, which EPA agrees with, makes the case that this standard should be considered relevant and appropriate for alternatives involving long-term onsite management of radioactive materials, i.e., longevity considerations should be factored into cover design.
9. 3.1.3.1 Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings, pg. 32 – The requirement to minimize the need for future maintenance found in §192.02(d) seems to be considered inappropriate based on the judgement that it is necessarily inconsistent with solid waste regulations requiring maintenance of landfill covers. We do not agree. Note that we understand the differences in design philosophy that have generally been applied at tailing sites versus solid waste disposal sites. We also agree that the solid waste closure requirements are generally more appropriate to the conditions being addressed here than the UMTRCA requirements. However, the requirement to minimize the need for future maintenance is not considered inconsistent with the requirement to maintain the landfill cover over the post-closure period and should be considered relevant and appropriate.
10. 3.1.3.2 RCRA Subtitle C, pg. 33 – EPA disagrees with numerous claims in this section that the site presents no or negligible risk to potential receptors. EPA does not agree that the BRA demonstrated this to be the case or was designed to make such a demonstration. EPA disagrees with the claim that there is no or negligible risk of migration through leaching to groundwater. EPA does not agree that the RI report demonstrated this or was designed to make such a demonstration. Further, these points are not clearly germane to a discussion of whether the requirements are well suited to the activity or contaminant being addressed. These claims should be omitted or revised consistent with Specific Comments 5 and 6 above.

11. 3.1.3.3 RCRA Subtitle D, pg. 38 – The information provided on the definition of a relevant and appropriate requirement would be more logically located at the introduction to Section 3.
12. 3.1.3.3 RCRA Subtitle D, beginning pg. 38 – This discussion often does not seem to clearly address the primary purpose, which is to make the case that the purpose of the requirement is sufficiently similar to the purpose of the CERCLA action, i.e., the requirements address containment and long-term management of municipal solid waste and the CERCLA action addresses containment and long-term management of municipal solid waste. EPA made this point in its previous comments but Respondents continue to focus on why requirements are not ARARs. This discussion should be revised to make the case that various Subtitle D closure and post-closure requirements are relevant and appropriate and omit the extraneous argument.
13. Same, pg. 39, last partial paragraph and elsewhere – EPA disagrees with the assertion that migration to groundwater is not a concern for OU-1. See Specific Comment 5 above.
14. Same, pg. 40, last partial paragraph and elsewhere – EPA disagrees with the claims that direct exposure gamma radiation is the only purpose of potential remedial action for OU-1 and that potential impacts to groundwater were determined not to be concern associated with OU-1. These claims should be omitted or revised according the comments already provided.
15. 3.2 Remedial Action Objectives, pg. 44 – As discussed in many of the comments above, EPA does not concur with the site model as presented. The potential risks are understated and certain pathways of concern are inappropriately ruled out or minimized. As presented, the site model does not support the proposed remedial action objectives. Much of the discussion here will need to be modified or eliminated. However, subject to the comments that follow, EPA is in general agreement with the proposed remedial action objectives.

The presentation should begin by identifying the typical RAOs for CERCLA municipal landfills and then make the case for modifications based on site-specific findings. This would eliminate the confusing duplication of information and use of non standard terms. Since the first RAO is to prevent direct contact with landfill contents, it does not seem appropriate to add a qualifier that refers to health-based levels. If “exposure to gamma or other forms of radiation” is a form of direct contact, then RAO number 1 should be: Prevent direct contact with landfill contents including gamma and other forms of radiation. Otherwise, two separate RAOs may be necessary.

We don’t find sufficient information to support the conclusion that methane gas is not a potential issue for OU 1. An adequate basis will need to be cited or the objectives will need to be revised consistent with the detailed analysis of the capping alternatives which includes gas monitoring, collection, and/or treatment.

16. 4.3.1 Institutional Controls, pg. 49 – Institutional controls are effective as informational devices and can constitute an enforceable property interest, but ICs do not *preclude* access to or use of property and the discussion of ICs should so state. This description of ICs is not very complete and is not entirely consistent with EPA’s definitions. Access restrictions generally involve physical barriers to entry such as fences and guards. We suggest this section contain some discussion consistent with EPA guidance. For example, EPA defines ICs as non-engineered instruments, such as administrative and legal controls, that help to minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. In accordance with the NCP, ICs are generally used in conjunction with, rather than in lieu of, engineering remedies. Where the opportunity exists, ICs should be “layered” (i.e., use multiple ICs) or implemented in a series to provide overlapping assurances. EPA recognizes four categories of IC mechanisms: 1) Proprietary Controls - these controls are based on state property law with the most common examples being easements and covenants; 2) Governmental Controls - these controls use the authority of an existing unit of government such as zoning and building codes; 3) Enforcement and Permit Tools - these legal tools include orders, permits and consent decrees; and 4) Informational Devices - these devices include deed notices and State registries or advisories. This information would then form the basis for site specific examination of institutional control options consistent with the General Comment 4 above.
17. 4.3.4 Removal, pg. 51 – Since “removal” is a Superfund term of art, this technology option would be better named “excavation” or other term with similar meaning. The discussion on excavation of radiologically-impacted materials within Areas 1 and 2 is overstated and needs to be modified. Statements to the effect that excavation of material is not feasible, but excavation is retained at the request of EPA and MDNR are oversimplified, do not fairly address the issue, and need to be omitted or modified. Consistent with EPA’s approach to evaluating CERCLA municipal landfill sites, based on program experience with these sites, it is appropriate to omit evaluation of alternatives involving wholesale excavation of the landfill. However, excavation is generally retained, and appropriately so, as an option to address “hot spots” or other accessible subsets of material.
18. 4.4.2 Presumptive Remedy Approach, pg 56 – The objectives addressed by the upgraded landfill cap and the RAOs presented on page 46 should be the same.
19. 4.4.2 Presumptive Remedy Approach, pg 57 – The discussion on methane gas generation argues for monitoring, collection, and/or treatment as a component of the remedial action. This is not consistent with the objectives presented on the previous page or the objectives presented in the Section 3.2 on RAOs.
20. 4.4.3 Remediation of “Hot Spots”, pg. 58 – Some of the arguments made in this section are out of place. The purpose of this discussion is twofold: 1) to support the conclusion that there

are no discrete, accessible principal threat wastes meeting the hot spot criteria as described in EPA's presumptive remedy guidance, and 2) to support the conclusion that, while there are no "hot spots", it makes sense in this case to include an alternative that examines the excavation of some accessible portion(s) of the landfill material that may contain relatively higher concentrations of radiologically contaminated material. The arguments that this option is ineffective are prejudicial and should not be put forward here; this type of analysis should be made as part of the evaluation of alternatives against remedy evaluation criteria.

21. 4.4.4.2 "Hot Spot" Alternatives, pg. 79 – The first sentence of this introductory paragraph does not make sense. Inclusion of the word "therefore" may not be intended.
22. 4.4.4.3 Buffer Zone and Crossroad Property Alternative, pg. 83 – The end of the first paragraph in this section states that the buffer zone property was subsequently acquired by Rock Road Industries. Is this property covered by the existing deed restrictions in Appendix C?
23. 4.4.4.3.1 Alternative F1 - No Action, pg. 84 – There is no basis for the assertion at the end of this section that additional sampling data will be used to *verify* the No Action Alternative is still considered protective and allows for unrestricted use of these parcels. Since the current conditions of these parcels with respect to radionuclide occurrences are largely unknown and risk analysis looking at unrestricted exposure has not been performed, either under current or former site conditions, the additional sampling data will be used to determine the status of this property with respect to these issues. The discussion should be revised accordingly.
24. 4.4.4.3.4 Alternative 4 – Excavation Above UMTRCA Standards, pg. 86 – The analysis relies on the sampling and analysis performed in February 2000 and concludes that the impacted area may now be less than an acre. Perhaps this is a reasonable guess. However, the fate of the piles that were located on the buffer area is apparently not known. The piles may have been relocated, blended, or redeposited, which may effect the impacted area in a variety of ways. The discussion should be revised to reflect this uncertainty. Also, this alternative would meet an unrestricted use standard; therefore, 5-year reviews would not be needed to address this property, as indicated in that last sentence of this section.
25. 5.2.1.1 Alternative L1 – Overall Protection, pg. 97, 1st paragraph – EPA disagrees with the assertion that the No Action Alternative is protective of human health assuming future uses consistent with the BRA. The No Action Alternative does not provide for monitoring and enforcement of ICs which is necessary for long-term effectiveness. Additionally, this alternative does not provide for monitoring and maintenance of the disposal areas which would also be necessary to assure long-term effectiveness. Lastly, this alternative does not address all the pathways identified by the RAOs. The FS must be revised to reflect these comments.

26. 5.2.1.1 Alternative L1 – Overall Protection, pg. 97, 2nd paragraph – Statements on risk should make it clear that, absent appropriate response action, the site poses an unacceptable risk over the long-term. The BRA does not indicate that the No Action Alternative is protective. The BRA identified hypothetical exposures exceeding the acceptable risk range. Current uses are protective assuming ICs are monitored and enforced and disposal areas are monitored and maintained. While the presumptive remedy approach may rely on qualitative assessment to establish unacceptable risk, it is not true to say that the presumptive remedy approach presumes the presence of an unacceptable risk. The FS must be revised to reflect these comments.
27. 5.2.1.3 Alternative L1 - Long-Term Effectiveness, pg. 98 – Revise statements on risk and effectiveness per comments above.
28. 5.2.2.1 Alternative L2 - Overall Protection, pg. 100 – Revise statements on risk and effectiveness per comments above. Revise the last sentence in this section, and other similar statements, to make it clear that IC only alternatives are not considered protective because they contain no provisions to stabilize or maintain the physical integrity of the disposal areas.
29. 5.2.3.1 Alternative L3 - Overall Protection, pg. 103 – Revise statements on risk and effectiveness per comments above. This alternative is not designed to address all the pathways identified in the RAOs.
30. 5.2.3.3 Alternative L3 - Long-Term Effectiveness, pg. 106 – Revise consistent with comments above.
31. 5.2.3.5 Alternative L3 - Short-Term Effectiveness, pg. 107 – In concept, this alternative is not designed to meet the RAO of minimizing infiltration through the waste material.
32. 5.2.4.1 Alternative L4 - Overall Protection, pg. 110 – Revise consistent with comments above.
33. 5.2.4.2 Alternative L4 - Compliance with ARARs, pg. 112 – The rationale provided on floodplain requirements is still not clear. The landfill and the adjacent buffer and the Crossroad property are located within either the 500-year floodplain or a portion of the 100-year floodplain and yet it is concluded that these requirements are not relevant and appropriate. We understand the various points, i.e., 1) the site is in the protected area behind the levees 2) the potential action involves upgrade to existing disposal units not the construction of new ones, and 3) fill activity has raised the surface elevation of the landfill above potential flood levels. However, cover construction would apparently involve regrading and/or placement of material along the toe or landfill berm in areas that are within the floodplain and below flood elevation, absent the levee. Sufficient information is not provided to easily determine exactly where these areas are. Our interpretation is that these requirements should be considered relevant and

appropriate and the cover system should be designed and constructed, to the extent practical, in a fashion that does not diminish the usefulness of the floodplain. Revise the discussion consistent with this interpretation.

34. 5.2.4.3 Alternative L4 - Long-Term Effectiveness, pg. 114 – Revise statements on risk, pathways of concern, and effectiveness of ICs consistent with comments above.
35. Apply comments similar to those above to the discussion on Alternative L5 and the hot spot alternatives.
36. 5.3.2.1 Alternative H2 - Overall Protection, pg 129 – The discussion here seems to miss the point. Excavation of material would only be done in conjunction with capping. Therefore, no purpose is served by the discussion on how this excavation would affect baseline risk and how excavation alone would not be protective. The purpose is to set up comparative analysis of the tradeoffs between excavation and capping versus capping alone, e.g., excavation and capping provides similar overall protection as capping alone but would offer some limited advantage in the event institutional and engineering controls fail. Revise the FS accordingly.
37. 5.3.2.1 Alternative H2 - Compliance with ARARs, pg. 130 – This section does not do a good job of identifying pertinent information. It is a given that excavation of some of the waste material would only be done in conjunction with capping, and it serves no purpose to repeat ARARs that were explained in association with the capping alternatives. This discussion should be limited to identifying any additional ARARs associated with the excavation, handling, transportation and disposal of the “hot spot” material.
38. 5.3.2.3 Alternative H2 - Long-Term Effectiveness and Permanence, pg 132 – See comment on Overall Protection above. This alternative offers a high degree of long-term effectiveness and permanence. It is not made clear what kinds of calculated theoretical risks are reduced through this alternative.
39. 5.3.2.7 Alternative H2 - Costs – Since this alternative is not carried out independent of capping, it would be appropriate to also show capping costs and a combined total.
40. 5.4.1.1 Alternative F1 - Overall Protection, pg. 136 – If all the material has been removed, the No action Alternative may be protective. On the other hand, to the extent it has not been removed, it may not be protective. Given that there was once measurable contamination, and current conditions are largely unknown, it would be more appropriate to presume there is a condition that needs to be addressed and then define the standards that it needs to meet. If subsequent sampling demonstrates that it meets an unrestricted use standard, then No Action may be considered protective. Also, “capping” of the radiologically impacted area does not make the No Action alternative protective as stated here. In addition, the discussion here states

that the current access restrictions are effective to prevent land use changes; this is untrue. AAA Trailer is occupying the Buffer Zone, an event which is clearly a change in land use and one which the access controls were ineffective in preventing.

41. 5.4.1.1 Alternative F1 - Compliance with ARARs, pg. 137 – See comment on Overall Protection above.
42. 5.4.1.1 Alternative F1 - Long-Term Effectiveness and Permanence, pg. 138 – Revise risk statements according to prior comments. Also see comment on Overall Protection above. There is no value in evaluating alternatives to address problems that are not considered to exist. Also, the fate of the contaminated piles is unknown. The logical approach is to presume the problem exists until measured against the established standard. Revise the analysis accordingly.
43. 5.4.1.5 Alternative F1 - Short-Term Effectiveness, pg. 139 – Revise risk statements according to prior comments.
44. 5.4.2 Alternative F2, pg. 139 – See comments on Alternative F1 above.
45. 5.4.3 Alternative F3, pg. 143 – See comments on Alternative F1 above.
46. 5.4.4.1 Alternative F4 - Overall Protection, pg. 148 – Revise risk statements according to comments above. How is it that the actions performed by or on behalf of AAA Trailer make this alternative (removal of above-criteria levels of contamination) more protective? These actions are largely unknown and may have only served to disburse the contamination beyond the prior area of impact which does not serve to improve the residual condition. The FS should be revised to reflect this uncertainty.
47. 5.4.4.2 Alternative F4 - Compliance with ARARs, pg. 149 – See comments above.
48. 5.4.4.3 Alternative F4 - Long-Term Effectiveness and Permanence, pg. 150 – See comments above. This says that soil sampling performed during the RI and after 1999 grading activity indicated lot 2A2 meets the UMTRCA standard. This seems to contradict the findings of the RI and other statements in this report. The purpose here should be to characterize the effectiveness of the contemplated action, not make the case that the action is not necessary. The analysis should be revised accordingly.
49. 5.4.4.7 Alternative F4 - Costs, pg. 152 – There should be no annual O&M costs or 5-year review costs associated with this alternative.
50. 6.1.1 Comparative Analysis - Overall Protection, pg. 153 – Revise the discussion consistent with comments above to, among other things, make it clear that the no action and institutional

control only alternatives are not protective of public health and the environment and therefore do not meet the threshold criteria. Remove or modify statements claiming that the BRA shows no unacceptable risk.

51. 6.1.2 Comparative Analysis - Compliance with ARARs, pg.156 – In the third paragraph, should “radon” be “radium”?
52. 6.1.2 Comparative Analysis - Compliance with ARARs, pg.156 – This section generally presents information that has already been presented, making it more difficult than necessary to identify the alternatives that meet ARARs. As commented before, EPA does not agree with the interpretation that the no action or limited action alternatives do not trigger consideration of action-specific ARARs, e.g., solid waste regulations. This section should explain that Alternatives L1 through L3 do not meet ARARs and therefore do not meet the threshold criteria.
53. 6.2.1 Comparative Analysis - Long-Term Effectiveness and Permanence, pg. 160 – Revise risk and protectiveness statements according to prior comments above. Alternatives not meeting the threshold criteria do not need to be evaluated here. The purpose of this analysis is not to simply reiterate that the various alternatives are protective, but rather to highlight the distinctions between the alternatives in terms of effectiveness and permanence, which this section does not do very well. Since Alternative H2 would only be implemented in conjunction with capping, the relative effectiveness of this alternative alone, in and of itself, is of limited value. This analysis should focus on the relative effectiveness of capping versus capping with “hot spot” removal, and of cleanup of the Crossroad property to unrestricted use versus managing property use over the long-term. The analysis should minimize unnecessary repetition of prior sections. With respect to the analysis of Alternative H2, it is not clear what theoretical risks are being discussed. It would seem that the principal distinction in this category between capping and capping with hot spot removal might only become evident in the event that engineering and/or institutional controls fail. Some qualitative discussion of effectiveness under this scenario would be appropriate.
54. 6.2.2 Comparative Analysis - Reduction in MTV Through Treatment, pg. 163 – Since none of the alternatives meet the statutory preference for treatment, and therefore, achieve no reduction in toxicity, mobility, or volume through treatment, it is probably appropriate to confine this discussion to the reasons that treatment is not practicable in this case.
55. 6.2.4 Comparative Analysis - Implementability, pg. 166 – Some of the more significant issues in this category do not seem to be addressed, i.e., the relative technical difficulty associated with capping the landfill versus capping with hot spot removal, and; the difficulty associated with cleanup of the Crossroad property versus seeking the imposition of institutional controls to manage land use. A more thorough examination of these distinctions should be provided.

56. 6.2.5 Comparative analysis - Cost, pg. 168 – The thrust of this analysis could be made much more clear by including a simple table showing the present worth cost of capping versus capping with hot spot removal, and the present worth cost of the three Ford property alternatives. As noted before, there should be no annual costs associated with F4.
57. 6.4 Summary of Alternatives Evaluation, pg. 170 – Revise statements on protectiveness in accordance with the comments above.
58. Revise Tables 3.1, 3.2, 3.3 and 6.1 consistent with the comments requiring revisions to the corresponding text.